REMARKS

This communication is a full and timely response to the Office Action dated July 31, 2003, the period of response being extended one month by a Request for Extension of Time filed concurrently, herewith, and because November 30, 2001 was a Sunday. By this communication, claims 26 and 32 have been canceled, claim 25 has been amended to include the subject matter of claim 26, and claim 30 has been amended to include the subject matter of claim 32. Moreover, claim 36 has been amended to provide proper antecedent basis. Support for the changes to claims 25 and 30 can be found in claims 26 and 32, which were added to the instant application without objection in a Preliminary Amendment dated April 2, 2001, and variously throughout the specification at page 98, line 19 through page 100, line 1. No new matter has been added. Claims 25, 27-31, and 33-39 are pending, where claims 25 and 30 are independent.

Claim Objections

Claim 36 was objected to for an alleged informality. Applicants have amended claim 36 to change "said film cartridge" to "a film cartridge." For at least this reason, Applicants respectfully request that the objection to claim 36 be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 25-28, and 30-34 were rejected under 35 U.S.C. §103(a) as unpatentable over *Frosch et al.*, U.S. Patent No. 3,796,476 in view of *McGrew*, U.S. Patent No. 4,411,489. Applicants note that the rejection to claims 26 and 32 are moot by virtue of the cancellation of these claims. With respect to claims 25, 27, 28, 30, 31, 33, and 34, however, Applicants respectfully traverse this rejection.

Independent claim 25 recites a method for simultaneously producing a hologram reproducible as both a reflection type hologram and a transmission type hologram, comprising sequentially generating image data of a parallax image string as strip- or dot-shaped hologram elements; sequentially directing said image data to correspondingly selected portions of a recording medium for hologram; contacting at least one surface of the recording medium for hologram with a light inlet block; projecting an object light beam on a first surface of the recording medium for hologram through a one-dimensional diffusion plate located adjacent said first surface such that a void exists between said diffusion plate and said first surface; and projecting a reference light beam on a second, opposite surface of the

recording medium for hologram through said light inlet block, wherein the angle of incidence of said reference light beam and the refractive index of the recording medium are chosen such that said reference light beam is totally reflected by said first surface after passing through said recording medium, wherein said light inlet block is substantially columnar-shaped and is adapted for rotating movement.

Independent claim 30 recites an apparatus for simultaneously producing a hologram reproducible as both a reflection type hologram and a transmission type hologram, comprising a recording medium for hologram fed from a film cartridge between a light inlet block and a one-dimensional diffusion plate such that a void exists between a first surface of said recording medium and said diffusion plate and such that said light inlet block contacts a second surface of said recording medium; means for sequentially advancing said recording medium; means for sequentially generating image data of a parallax image string as strip- or dot-shaped hologram elements; means for sequentially directing said image data to correspondingly selected portions of said recording medium; means for projecting an object light beam on said first surface of the recording medium for hologram through said one-dimensional diffusion plate; and means for projecting a reference light beam on said second surface of said recording medium through said light inlet block, wherein the angle of incidence of said reference light beam and the refractive index of the recording medium are chosen such that said reference light beam is totally reflected by said first surface after passing through said recording medium, wherein said light inlet block is substantially columnar-shaped and is adapted for rotating movement.

Frosch discloses a method for making holograms by means of linearly polarized object and reference beams, where the reference beam is reflected inside the photosensitive emulsion. In this method, a mask 2 is illuminated by a first radiation source from below, thus generating an object beam 0. A reference beam B_1 is formed by a second radiation B_1 impinging a cathetus surface of a prism 7 from the right. This second radiation source impinges on a boundary layer of a photosensitive emulsion 4 and is fully reflected under the angle of total reflection, as a second reference beam B_2. A hologram H_1 is recorded on the photosensitive emulsion 4, as a result of interference generated between the object beam 0 and the reference beam B_1. A hologram H_2, is generated from a second interference pattern formed on the photosensitive emulsion 4, as a result of interference between the object beam 0 and the reference beam B_2. The method is performed in a system having spacers 3 formed on the mask 2. The spacers 3 are used for keeping the emulsion 4 on a glass carrier 5 at a

predetermined distance from the mask 2. The upper surface of the glass carrier 5, is covered by a thin lubricating film 6 which is located on the hypotenuse surface of a rectangular triangle prism 7. The Office Action acknowledges that *Frosch* fails to disclose, teach, or suggest that the image data for creating the object beam is sequentially generated parallax image string for creating strip or dot-shaped hologram elements, and that the light inlet block is of a column shape that is adopted for rotation.

McGrew discloses a system for synthesizing strip-multiplexed holograms, with or without coherent light, from a plurality of two-dimensional images. A cinema film 14 is made by placing a subject on a rotating turntable and photographing the subject with a cinema camera rotating at constant speed, so that each frame of the film 14 is taken from a different angle. The cinema film 14 is placed on a film transport so that coherent light emerging from a beam splitter 30 is aligned with a projection axis, and passes through a short focal length lens 34 so that the beam converges. The beam is then filtered, diverged, and converged by a plurality of lenses in a lens system, until a narrow, vertically oriented beam is projected onto an axially elongated vertical, cylindrical lens 54. The cylindrical lens 54 forms the beam into a cylindrical wavefront and projects the beam onto a sheet of a holographic recording medium 56. The Office Action alleges that this cylindrical lens 54 is a column shaped prism, and is analogous to the light inlet block of a column shape, as recited in claims 25 and 30. Applicants submit, however, that because the lens 54 is a cylindrical lens it cannot and does not exhibit any characteristics or properties that are germane to the light inlet block as recited in the claims.

In sum, each of claims 25 and 30 recites said inlet block is substantially a columnar shape and is adapted for rotating movement. *Frosch* and *Mcgrew* either singly or combined, fail to disclose, teach, or suggest at least this claim element. In particular, even if the cylindrical lens 54 of *McGrew* could be substituted into the lens system of *Frosch*, Applicants submit that the resulting system would not achieve the results as recited in claims 25 and 30. Even further, Applicants submit that because of the dissimilar configurations of the lens systems in *Frosch* and *McGrew*, the system resulting from the combination of these two references would be inoperable. For example, the triangular prism 7 and various film layers of *Frosch*, work together to deflect and focus the light beams onto the emulsion layer 4. The cylindrical lens 54 of *McGrew* would destroy the intended results of *Frosch* at least because of its differing reflecting properties and characteristics. For at least these reasons, a *prima facie* case of obviousness has not been established.

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, obviousness "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hosp. Sys. V. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). For at least these reasons, Applicants submit that the rejection of claims 25 and 30 under 35 U.S.C. §103 should be withdrawn, and these claims be allowed.

Claims 27 and 28 depend from claim 25. Claims 31, 33, and 34 depend from claim 30. By virtue of this dependency, Applicants submit that claims 27, 28, and 31-34 are allowable for at least the same reasons given above with respect to their respective base claims. In addition, Applicants submit that claims 27, 28, and 31-34 are further distinguished over *Frosch* and *McGrew* by the additional elements recited therein, and particularly with respect to each claimed combination. Applicants respectfully request, therefore, that the rejection of claims 27, 28, and 31-34 under 35 U.S.C. §103 be withdrawn, and these claims be allowed.

Claims 29, 35, and 38-39 were rejected under 35 U.S.C. §103(a) as unpatentable over *Frosch* and *McGrew*, and further in view of *Hotta et al.*, U.S. Patent No. 5,504,903. Claims 36 and 37 were rejected under 35 U.S.C. §103(a) as unpatentable over *Frosch* and *McGrew* and further in view of *Ishikawa et al.*, U.S. Patent No. 5,798,850. Applicants respectfully traverse these rejections.

Claim 29 depends from claim 25. Claims 35-39 depend from claims 30. By virtue of this dependency, Applicants submit that claims 29 and 35-39 are allowable for at least the same reasons given above with respect to their respective base claims. In addition, Applicants submit that claims 29, 35, and 38-39 are further distinguished over *Frosch*, *McGrew*, and *Hotta* by the additional elements recited therein, and particularly with respect to each claimed combination. Likewise, Applicants submit that claims 36 and 37 are further distinguished over *Frosch*, *McGrew*, and *Ishikawa*, by the additional elements recited therein, and particularly with respect to each claimed combination. Applicants respectfully request, therefore, that the rejection of claims 29 and 35-39 under 35 U.S.C. §103 be withdrawn, and these claims be allowed.

Conclusion

Based on at least the foregoing amendments and remarks, Applicants submit that claims 25, 27-31, and 33-39 are allowable, and this application is in condition for allowance. Accordingly, Applicants request favorable reexamination and reconsideration of the application. In the event the Examiner has any comments or suggestions for placing the application in even better form, Applicants request that the Examiner contact the undersigned attorney at the number listed below.

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Respectfully submitted,

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